C L A I M S

1 1. A system for communication with a mobile data processing
2 device by way of a mobile software agent, said system comprising:

3 means for transmitting the mobile software agent;
4

5 means for spreading a mobile software agent from an
6 originating system via a network to one or more destination
7 systems;

8 means for running the mobile software agent; and

9 means for communicating, including a mobile software agent
   interface component for communicating with the mobile
10 software agent, and a mobile data processing device
11 interface component for communicating with the mobile data
12 processing device.
13

14 2. A system according to Claim 1, wherein the mobile software
   agent includes an event-handling component to handle events
   communicated via the mobile data processing device interface
4 component relating to the status of the mobile data processing
5 device; a recognition component to recognize the destination
6 system; an execution component to run on the destination system;
7 a classification component to classify the mobile data processing
8 device; and one or more action components to perform specific
9 actions on the mobile data processing device dependent on results
10 from the classification component.

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3. A system according to Claim 2, wherein the mobile software agent further comprises:

a checkback component for checking back to the originating system or to other mobile software agents for indicating whether installation on the destination system or the action being performed on the mobile data processing device succeeded or failed;

a replication component for producing a copy of the mobile software agent in the destination systems;

a merger component to merge mobile software agents having like tasks into a single merged mobile software agent; and

a self-termination component for terminating the mobile software agent after a preset life span or a defined event.

4. A system according to Claim 1, wherein the mobile software agent interface component comprises:

a support component to receive the mobile software agent from the network on the destination system; and

a component to deliver installation information for the destination system.

5. A system according to Claim 1, wherein the mobile data processing device interface component has at least one communication component to detect events on the mobile data

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4   processing device and transmit the events to the mobile software

5   agent.

1   6.   A system according to Claim 4, wherein the mobile software

2   agent interface component further comprises a component for

3   secure storage of keys.

1   7.   A system according to Claim 4, wherein reception of the

2   mobile software agent by way of the mobile software agent

3   interface component is executed by means of TCP/IP protocol.

1   8.   A system according to Claim 1, wherein said creating means is

2   a backend system, the destination system is a data processing

3   device with a chipcard reader and the mobile data processing

4   device is a chipcard.

1   9.   A system according to Claim 1, wherein the mobile software

2   agent interface component and the mobile data processing device

3   interface component are installed on the destination system.

1   10.   A system according to Claim 1, wherein the mobile software

2   agent interface component is identical for all mobile software

3   agents and only the mobile data processing device interface

4   component for the associated mobile data processing device needs

5   to be installed.

1   11.   A system according to Claim 1, wherein the interface

2   components can be downloaded to the destination systems over a

3   network.

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1   12. A system according to Claim 1, further comprising an
2   authentication component to authenticate the mobile software
3   agent to the mobile data processing device.

1   13. A system according to Claim 12, wherein the authentication
2   component comprises:

3   a first component to request a random number from a
4   mobile data processing device, said first component being
5   part of the mobile software agent;

6   a second component to transmit the random number to the
7   originating system, said second component being part of the
8   mobile software agent;

9   a third component to sign the random number by means of
10   a key, said third component being installed on the
11   originating system; and

12   a fourth component to verify the signature, said fourth
13   component being installed on the mobile data processing
14   device.

1   14. A system according to Claim 12, wherein the authentication
2   component comprises:

3   a first component to request a random number from a
4   mobile data processing device, said first component being
5   part of the mobile software agent;

6   a second component to sign the random number by means
7   of a key, said second component being part of said
8   communicating means; and

9   a third component to verify the signature, said third
10   component being installed on the mobile data processing
11   device.

1   15. A method for communication with a mobile data processing
2   device by way of a mobile software agent, wherein the mobile data
3   processing device is addressable via a network, said method
4   comprising the steps of:

     creating a mobile software agent;

     spreading the mobile software agent across the network
     into one or more systems;

     delivering information to a software agent interface
     component of each of the systems for reception of mobile
     software agents from the network, including information for
     making migration or installation decisions;

13   evaluating the delivered information;

14   for each of the systems, installing the mobile software
15   agent on the system if it is determined that the mobile
16   software agent is intended for the system;

17   establishing a communication link between the mobile
18   software agent and the mobile data processing device via a

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mobile data processing device interface component of the
system;

classifying the mobile data processing device on
establishment of a connection between the mobile data
processing device and the mobile data processing device
interface component; and

performing actions of the mobile software agent on the
mobile data processing device via the mobile data processing
device interface component dependent on results of said
classifying stop.

16. A mobile software agent for use in communicating information
from an originating system to a mobile data processing device
associated with a destination node, said mobile software agent
comprising:

a communication component for communicating with a
mobile software agent interface component on the destination
node;

a recognition component for recognizing the destination
node;

an execution component to run on the destination node;

a classification component to classify the mobile data
processing device;

one or more action components for performing specific

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14   actions on the mobile data processing device dependent on

15   results from said classification component;

16   a checkback component for checking back to the

17   originating system or to other mobile software agents

18   indicating whether installation on the destination node or

19   the action being performed on the mobile data processing

20   device succeeded or failed;

21

22   a replication component for producing a copy of the mobile

23   software agent for distribution to other destination

24   systems;

25   a merger component for merging several mobile software

26   agents having like tasks into a single merged mobile

27   software agent; and

28   a self-termination component for terminating the mobile

29   software agent after a preset life span or a defined event.

17. Computer readable code for permitting communication with a

mobile data processing device by way of a mobile software agent,

3   wherein the mobile data processing device is addressable via a

4   network, said computer readable code comprising:

5   first subprocesses for spreading the mobile software agent

6   across the network into one or more systems;

7   second subprocesses for delivering information to a software

8   agent interface component of each of the systems for reception of

9   mobile software agents from the network, and including

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10   information for making migration or installation decisions;

11   third subprocesses for evaluating the delivered information;

12   fourth subprocesses for installing the mobile software agent
13   on the system if it is determined that the mobile software agent
14   is intended for the system;

15   fifth subporcesses for establishing a communication link
16   between the mobile software agent and the mobile data processing
17   device via a mobile data processing device interface component of
18   the system;

19   sixth subprocesses for classifying the mobile data
20   processing device on establishment of a connection between the
21   mobile data processing device and the mobile data processing
22   device interface component; and

23   seventh subprocesses for performing actions of the mobile
24   software agent on the mobile data processing device via the
25   mobile data processing device interface component dependent on
26   results of the classification of said sixth subprocesses.

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